

What is claimed is:

1. A process to purify Glyphosate solutions ((N-phosphonomethylglycine) obtained from the synthesis of Glyphosate by oxidation of N-phosphonomethylimidodiacetic acid and containing formaldehyde and formic acid as main impurities, comprising the steps of:

providing an initial solution of Glyphosate with a Glyphosate concentration ranging between 0.1% and 3% w/v, a formaldehyde concentration ranging between 0.5% and 1% w/v, and a formic acid concentration ranging between 0.1% and 0.6% w/v;

adjusting the pH of the said initial Glyphosate solution to a value ranging between 2.5 and 3.5 with a base selected from alkylamine, ammonium hydroxide, sodium, or potassium hydroxide;

submitting said solution to nanofiltration at a temperature ranging between 10 °C and 35 °C and a pressure ranging between 25 and 35 Kg/cm²;

carrying out said nanofiltration through at least one nanofiltration membrane;

recovering the concentrated Glyphosate solution containing more than 97% of Glyphosate from the initial solution with a Glyphosate concentration of approximately 8%; and

discarding the permeate solution containing between 50% and 95% of formaldehyde and formic acid present in said initial solution.

2. The process in accordance with claim 1, wherein:

the pH of the initial Glyphosate solution is adjusted with an alkylamine;

the solution is circulated through a column containing the 4-inch nanofiltration membrane ($7.6 \text{ m}^2/\text{membrane}$) at a temperature of 25°C under an initial working pressure of 25 Kg/cm^2 ;

the solution with a higher concentration of Glyphosate is recovered, discarding the permeate solution which contains the impurities;

the concentrated solution is recirculated through the membrane under increased working pressure; and

the recirculation is repeated until a working pressure of 35 Kg/cm^2 is obtained and the concentrated Glyphosate solution is recovered.

3. The process in accordance with claim 1, wherein the nanofiltration is done continuously using 12 nanofiltration membranes placed in series, and the operating flow conditions are adjusted so that in the last membrane the working pressure is 35 Kg/cm^2 .

4. The process in accordance with claim 1, wherein the pH of the initial Glyphosate solution is adjusted with an alkylamine.

5. The process in accordance with claim 1, wherein the solution is circulated through a column containing the 4-inch nanofiltration membrane ($7.6 \text{ m}^2/\text{membrane}$) at a temperature of 25°C under an initial working pressure of 25 Kg/cm^2 .

6. The process in accordance with claim 1, wherein the concentrated solution is recirculated through the membrane under an increased working pressure and the recirculation is repeated until a working pressure of 35 Kg/cm^2 is obtained and the concentrated Glyphosate solution is recovered.